

Anesthesiology

Claims Data Snapshot

2023



Introduction

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This publication begins with insight into frequency and financial severity profiles by specialty. Then follows an analysis of aggregated data from clinically coded cases opened between 2012-2021 in which Anesthesiology is identified as the primary responsible service.

Of note, cases involving CRNAs are included in this set. See pages 6 & 16 for more detail related to case details.

Keep in mind...

A clinically coded malpractice case can have more than one responsible service, but the “primary responsible service” is the specialty that is deemed to be most responsible for the resulting patient outcome.

Our data system, and analysis, rolls all claims/suits related to an individual patient event into one case for coding purposes. Therefore, a case may be made up of one or more individual claims/suits and multiple defendant types such as hospital, physician, and other healthcare professionals.

Cases that involve attorney representations at depositions, State Board actions, and general liability cases are not included.

This analysis is designed to provide insured doctors, healthcare professionals, hospitals, health systems, and associated risk management staff with detailed case data to assist them in purposefully focusing their risk management and patient safety efforts.

Specialty benchmarking

Specialties have different frequency and financial severity profiles which combine to produce differing risk levels.

Severity Tier	High	Hematology/Oncology, Pathology, Pediatrics	Anesthesiology, Neurology	Emergency Medicine, Neurosurgery, OB/GYN
	Medium	Family Medicine, Nephrology, Physiatry, Urgent Care	Cardiology, ENT, Gastroenterology, Internal Medicine	Cardiovascular Surgery, General Surgery, Orthopedic Surgery, Radiology, Urology
	Low	Allergy, Dermatology, Occupational Medicine, Psychiatry, Rheumatology	Ophthalmology, Plastic Surgery, Pulmonology	Hospitalists
		Low	Medium	High
		Frequency Tier		

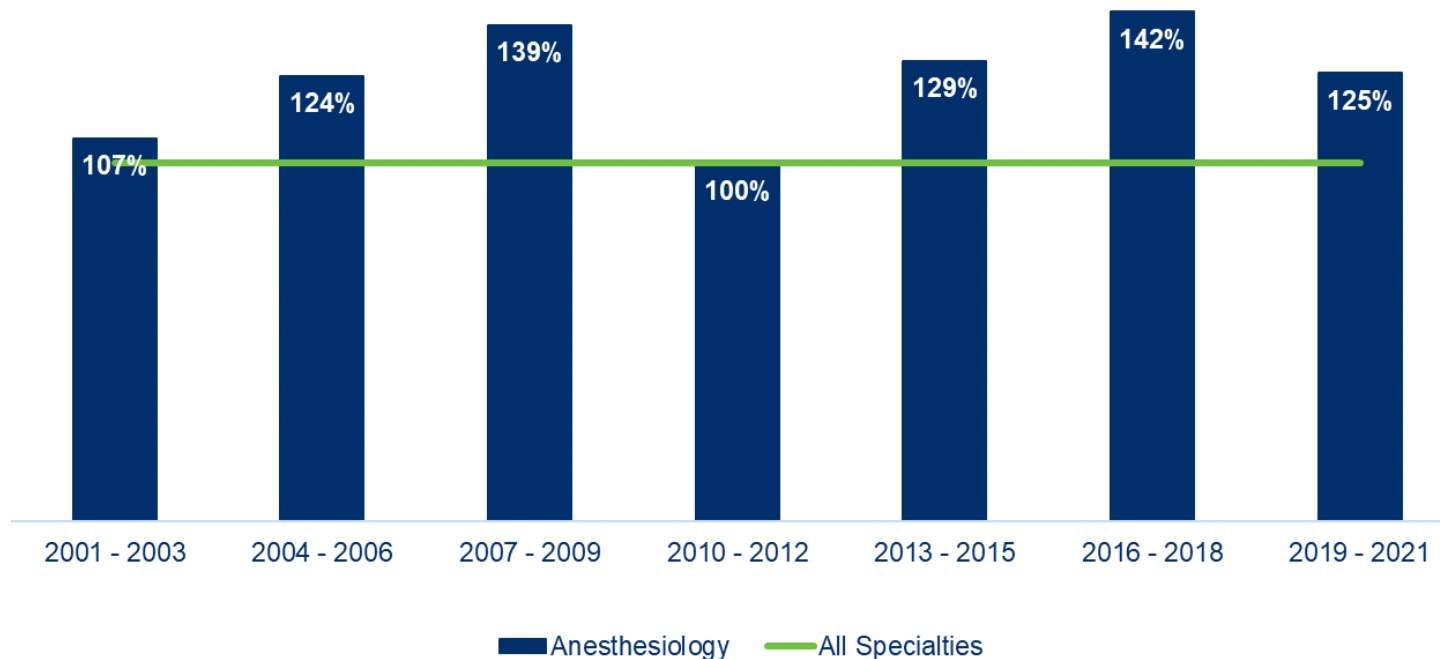
Source: MedPro Group Physician & Surgeon Claim Experience & Analysis

Specialty trends – Anesthesiology

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Anesthesiology has a higher financial severity per case and an average claim frequency compared to all specialties.

Average Severity - Anesthesiology Relative to All Specialties



Key Points - Clinically Coded Data

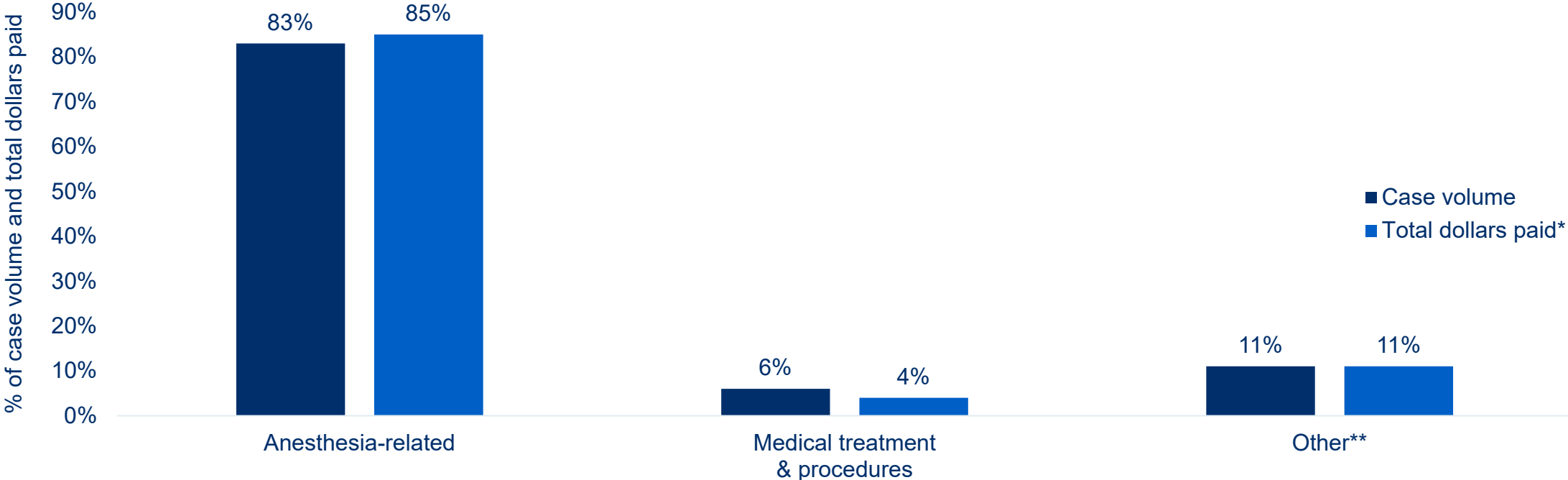
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- **Anesthesia-related allegations, as expected, account for the majority of Anesthesiology case volume and total dollars paid***. Cases are distributed similarly between performance-related and patient management-related allegations, followed by tooth/teeth damage and position-related cases.
- **Performance-related cases encompass procedural technique issues**, including injections, intubation and extubation. Extubation cases (excluding those involving tooth damage) often reflect immediate post-extubation complications, bringing into question whether extubation was appropriate/timely.
- **Management-related cases encompass recognition of and reaction to vital signs**, awareness while under anesthesia, monitoring while receiving blood products and during the post-operative recovery process. The failure to timely recognize and/or monitor/manage procedural complications prevents the opportunity for early mitigation of the risk of serious adverse outcome.
- **Positioning-related cases reflect when positioning of the patient is the key issue**, and includes situations where the patient was positioned correctly, but for an extended period of time resulting in injury.
- **CRNA-involved cases are included in this data set, and account for 27% of case volume**. Within the coding taxonomy, CRNA is noted as a “role” under the responsible service of Anesthesiology. The distinctions between non-CRNA cases and CRNA-involved cases are minimal, although CRNA case volume is more heavily concentrated around tooth/teeth damage scenarios. Location and clinical severity are similar. With regards to the distribution of contributing factors, while similar, CRNA-involved cases reflect a slightly higher percentage of cases involving the recognition and management of complications, and supervision issues.
- **Contributing factors, which are multi-layered issues or failures in the process of care that appear to have contributed to the patient’s outcome**, and/or to the initiation of the case, provide valuable insight into risk mitigation opportunities. Clinical judgment factors related to patient monitoring and response to changing conditions, technical skill factors, including the management of known complications, and suboptimal communication among members of patients’ surgery and anesthesiology teams, are key drivers of both clinical and financial Anesthesiology case severity.

Major Allegations & Financial Severity

Each case reflects one major allegation category. Categories are designed to enable the grouping and analysis of similar cases and to drive focused risk mitigation efforts. The coding taxonomy includes detailed allegation sub-categories; insight into these is noted later in this report.

Within the coding taxonomy, CRNAs are noted as a “role” under the responsible service of Anesthesiology. 312 of these 1177 cases (27%) reflect an involved CRNA. These are examined in more detail on page 16.



MedPro Group + MLMIC cases opened 2012-2021, Anesthesiology as responsible service (N=1177); *Total dollars paid = expense + indemnity; **Other includes allegations for which no significant case volume exists

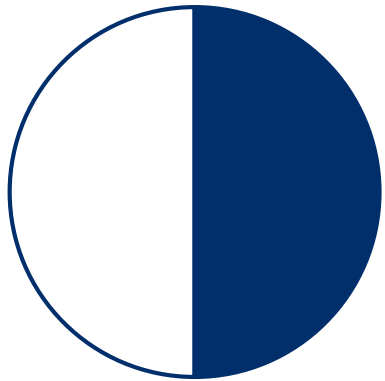
Clinical Severity*

Clinical Severity Categories	Sub-categories	% of case volume	<p>Typically, the higher the clinical severity, the higher the indemnity payments are, and the more frequently payment occurs.</p>
LOW	Emotional Injury Only	12%	
	Temporary Insignificant Injury		
MEDIUM	Temporary Minor Injury	45%	
	Temporary Major Injury		
	Permanent Minor Injury		
HIGH	Significant Permanent Injury	43%	
	Major Permanent Injury		
	Grave Injury		
	Death		

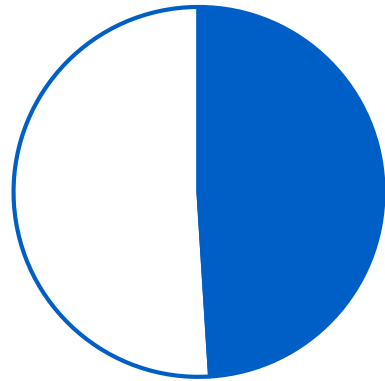
MedPro Group + MLMIC cases opened 2012-2021, Anesthesiology as responsible service (N=1177); *Severity codes reflect National Association of Insurance Commissioners (NAIC) injury severity scale

Claimant Type & Location

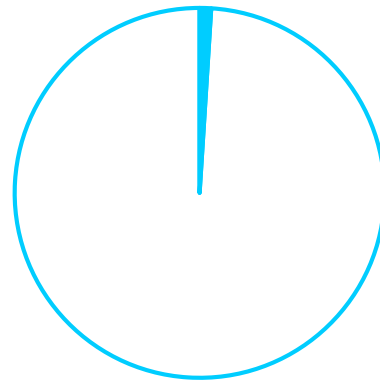
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Inpatient
50%



Ambulatory
49%



Emergency
1%

Top Locations	% of case volume
Inpatient surgery	43%
Ambulatory surgery	32%
Inpatient recovery	5%
Labor & delivery	5%

Contributing Factors

“Contributing factors reflect both provider and patient issues. They denote breakdowns in technical skill, clinical judgment, communication, behavior, systems, environment, equipment/tools, and teamwork. The majority are relevant across clinical specialties, settings, and disciplines; thus, they identify opportunities for broad remediation.”

Despite best intentions, processes designed for safe patient outcomes can, and do, fail.

Contributing factors are multi-layered issues or failures in the process of care that appear to have contributed to the patient's outcome, and/or to the initiation of the case, or had a significant impact on case resolution.

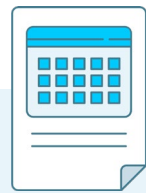
Multiple factors are identified in each case because generally, there is not just one issue that leads to these cases, but rather a combination of issues.



Administrative



Behavior-related



Clinical environment



Clinical judgment



Clinical systems



Communication



Documentation



Supervision



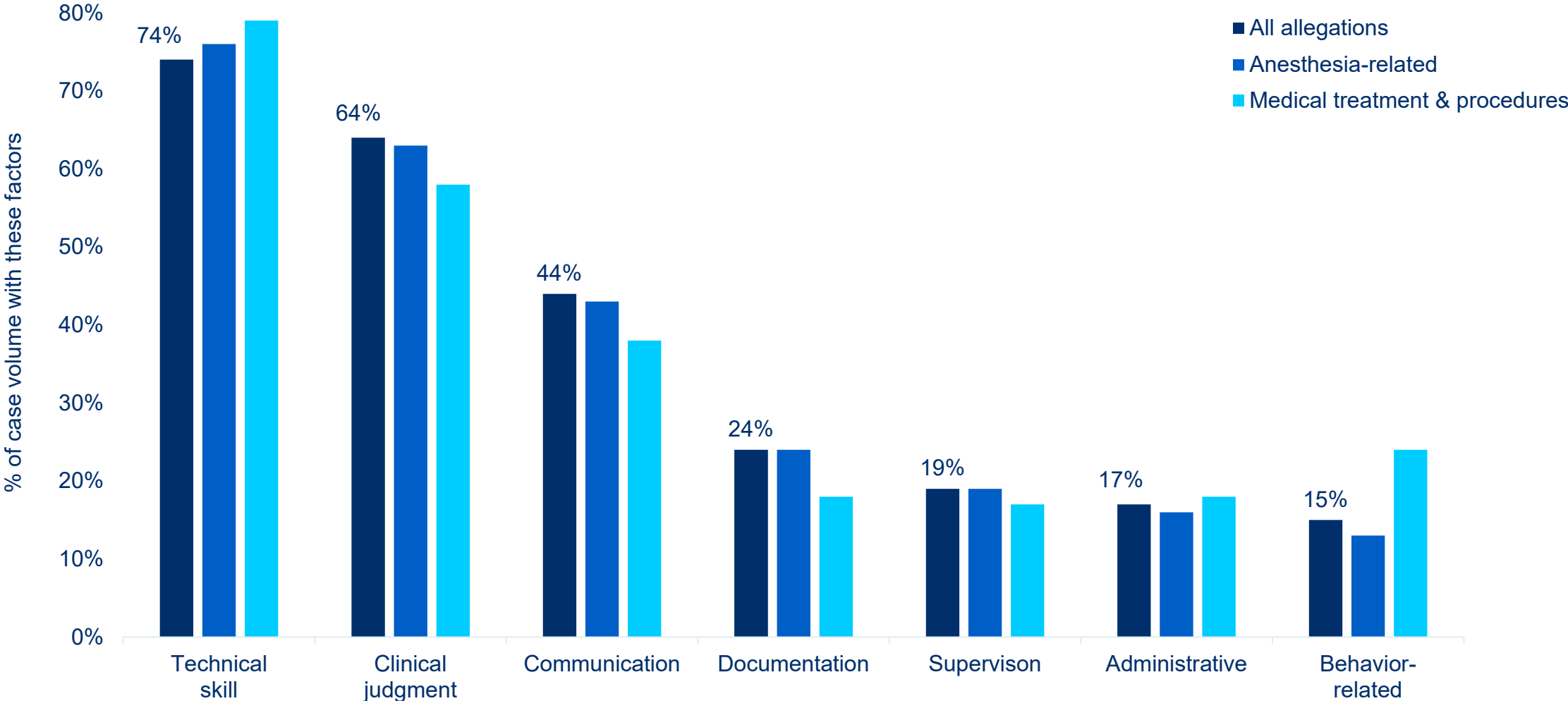
Technical skill

Contributing Factor Category Definitions

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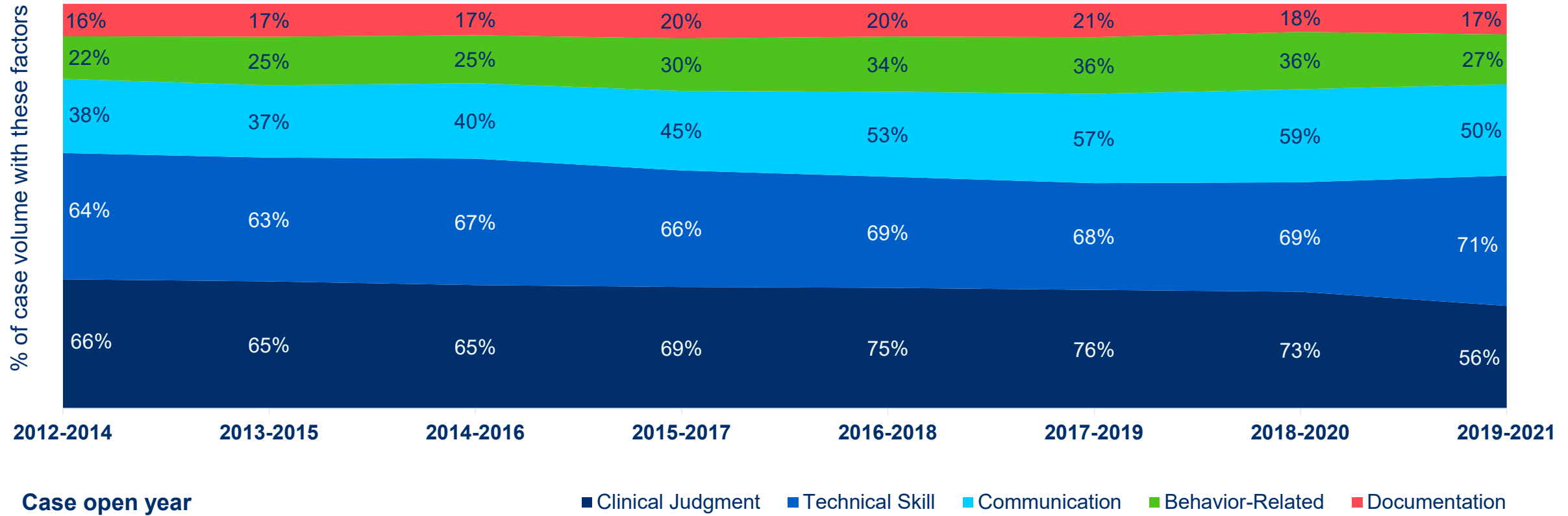
Administrative	Factors related to medical records (other than documentation), reporting, staff, ethics, policy/protocols, regulatory
Behavior-related	Factors related to patient nonadherence to treatment or behavior that offsets care; also provider behavior including breach of confidentiality or sexual misconduct
Clinical environment	Factors related to workflow, physical conditions and “off-hours” conditions (weekends/holidays/nights)
Clinical judgment	Factors related to patient assessment, selection and management of therapy, patient monitoring, failure/delay in obtaining a consult, failure to ensure patient safety (falls, burns, etc), choice of practice setting, failure to question/follow an order, practice beyond scope
Clinical systems	Factors related to coordination of care, failure/delay in ordering test, reporting findings, follow-up systems, patient identification, specimen handling, nosocomial infections
Communication	Factors related to communication among providers, between patient/family and providers, via electronic communication (texting, email, etc), and telehealth/tele-radiology
Documentation	Factors related to mechanics, insufficiency, content
Supervision	Factors related to supervision of nursing, house staff, advanced practice clinicians
Technical skill	Factors related to improper use of equipment, medication errors, retained foreign bodies, technical performance of procedures

Most Common Contributing Factor Categories by Allegation



MedPro Group + MLMIC cases opened 2012-2021, Anesthesiology as responsible service (N=1177); More than one factor per case, therefore totals >100%

Distribution of Top Five Factor Categories Over Time



While the distribution of these top (most common) factors across rolling three-year timeframes is relatively consistent, take note of even slight increases over time as indicators of emerging risk issues.

Focus on Most Common Drivers of Clinical and Financial Severity

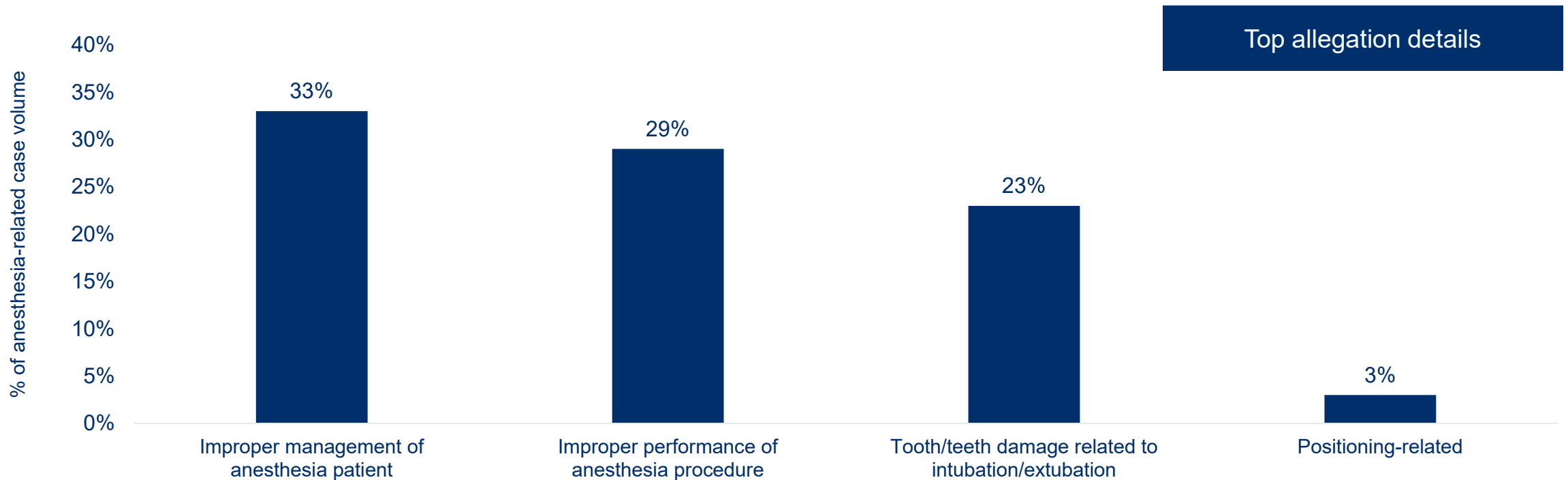
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Factors associated with high clinical severity outcomes	(CJ) inadequate monitoring of patients' physiological status (39%)	% of high severity case volume
	(CJ) failure to appreciate/reconcile signs/symptoms/test results (36%)	
	(CJ) selection of most appropriate procedure (34%)	
	(CO) suboptimal communication among providers about patient condition (28%)	
	(TS) recognition and management of known complications (24%)	
Factors associated with the costliest indemnity payments	(CJ) selection of most appropriate procedure (53%)	% more expensive than the average indemnity payment*
	(CJ) inadequate monitoring of patients' physiological status (44%)	
	(CJ) failure to appreciate/reconcile signs/symptoms/test results (42%)	
	(SU) supervision of advanced practice providers (39%)	
	(AD) policy/protocol not followed (26%)	

Clinical judgment factors related to patient monitoring and response to changing conditions, technical skill factors, including the management of known complications, and suboptimal communication among members of patients' surgery and anesthesiology teams, are key drivers of both clinical and financial Anesthesiology case severity.

Focus on Anesthesia-Related Allegations

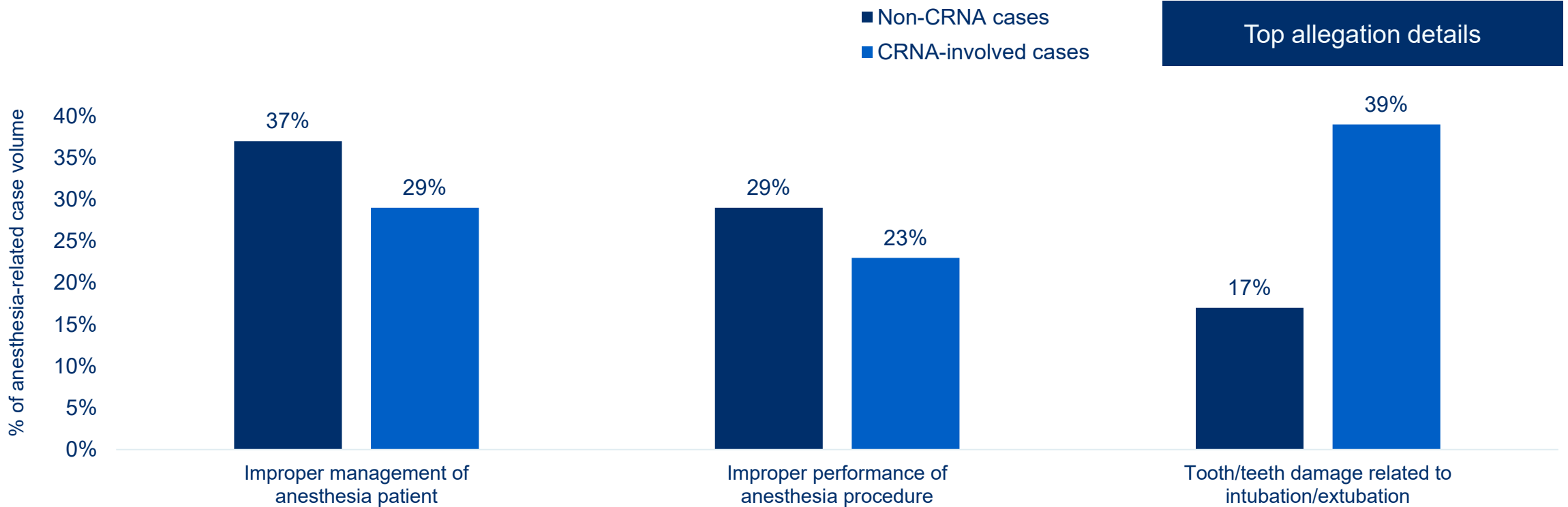
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Performance-related cases encompass procedural technique issues, including injections, intubation and extubation. Extubation cases (excluding those involving tooth damage) often reflect immediate post-extubation complications, bringing into question whether extubation was appropriate/timely. **Management-related cases encompass recognition of and reaction to vital signs**, awareness while under anesthesia, monitoring while receiving blood products and during the post-operative recovery process. The failure to timely recognize and/or monitor/manage procedural complications prevents the opportunity for early mitigation of the risk of serious adverse outcome. **Positioning-related cases reflect when positioning of the patient is the key issue**, and includes situations where the patient was positioned correctly, but for an extended period of time resulting in injury.

Focus on Anesthesia-Related Allegations Involving CRNAs

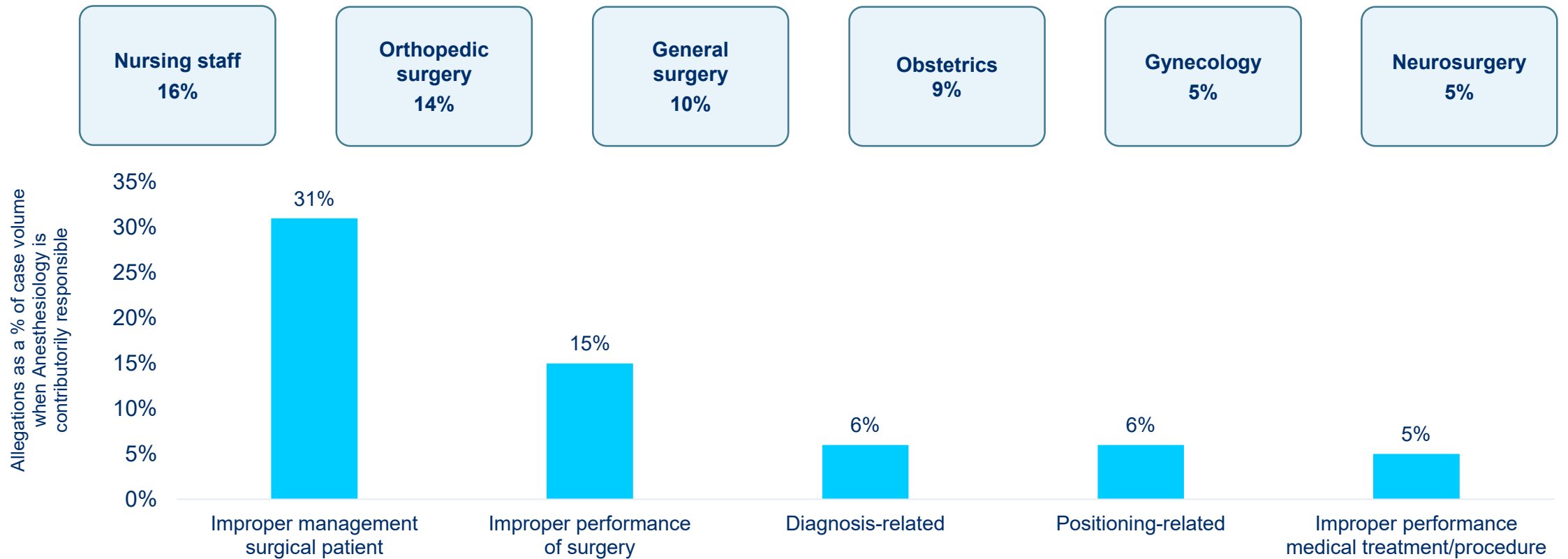
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CRNA case volume is more heavily concentrated around tooth/teeth damage scenarios. When considering other data points, location and clinical severity are similar between CRNA and non-CRNA cases. With regards to the distribution of contributing factors, while similar, CRNA cases reflect a slightly higher percentage of cases involving the recognition and management of complications, and supervision issues.

Contributorily Responsible

Although this analysis is focused on cases reflecting Anesthesiology as the primarily responsible service, another 654 cases identify Anesthesiology as contributorily responsible. The primary services in these cases are varied, reflecting the myriad of providers who care for patients along the healthcare continuum. The most common primary services, and a comparison of top allegation categories, are shown below.





The following stories are reflective of the allegations and contributing risk factors which drive cases brought against Anesthesiologists.

We're relaying these true stories as lessons to build understanding of the challenges that you face in day-to-day practice. Learning from these events, we trust that you will take the necessary steps to either reinforce or implement best practices, as outlined in the section focused on risk mitigation strategies.

Case Examples

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SETTLED

\$3.0M

CONTRIBUTING FACTORS

Clinical environment

Chaos in the surgical suite;
weekend/holiday

Clinical judgment

Failure to appreciate/reconcile
sign/symptom/test result;
inadequate response to
patient's vital signs; inadequate
monitoring

Communication

Sub-optimal communication
among providers

Documentation

Inconsistent documentation

Technical skill

Administration of incorrect dose
of Propofol

IMPROPER MANAGEMENT OF TRAUMA PATIENT UNDER ANESTHESIA RESULTING IN ANOXIC BRAIN INJURY

A 55 year-old female with a history of asthma, diabetes, obesity and hypertension was struck by a car, sustaining traumatic injuries, including multiple fractures, a small subarachnoid hemorrhage and soft tissue injuries. The patient was alert and oriented at the time of the **pre-operative anesthesia assessment, conducted by an anesthesia assistant.**

Documentation in the chart by the assistant was limited, and basically a repeat of what had been documented during the patient's emergency room evaluation. However, vital signs noted elsewhere in the record reflected that the **patient continued to be hypotensive and tachycardic pre-operatively**, but she was cleared for surgery.

Surgical repair of the patient's pelvic fractures began, with general anesthesia induced when the anesthesiologist was present. **The CRNA then monitored the patient during the procedure. The patient's blood pressure remained unstable throughout procedure, requiring repeated doses of vasopressors.** (The CRNA noted that he advised the anesthesiologist of persistent pressures in the 75/45 range during surgery but was not instructed to administer other treatment. The anesthesiologist claimed he instructed the CRNA prior to the procedure to give an albumin fluid bolus, and that at the end of the procedure, the patient was described to him as stable.) The CRNA gave reversal agents at end of procedure, and blood pressures improved. **Plan was to extubate after transferring patient to recovery, but the patient began "bucking" and Propofol was given in response.** The CRNA disconnected and reconnected the vent during transfer, but he claimed scene was "chaotic" and he was blocked from having access to the patient. Several minutes later, the patient was found to be unresponsive and "bottoming out." **A code was called.** The patient was revived with CPR and medications, given two units of packed red blood cells, and moved to the ICU for further care.

An MRA of the brain revealed a bilateral midbrain subacute infarct consistent with a watershed stroke. She did not improve, and was ultimately moved to a long-term care facility in a persistent vegetative state. **Expert reviewers were not supportive of the patient's anesthesia providers.** They felt the CRNA failed to intervene over an extended period for critically low blood pressures at a "shock level", administered improper doses of general anesthetics, and showed inattention to critical lab results (anemia, hypovolemia), all of which contributed to the hypotensive crisis.

Case Examples

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SETTLED

\$725,000

CONTRIBUTING FACTORS

Administrative

Missing documentation

Communication

Suboptimal communication
between anesthesiologist and
perfusionist

Documentation

Inaccurate documentation

Technical Skill

Mis-identification of anatomical
structure

IMPROPER PERFORMANCE OF ANESTHESIA PROCEDURE: ESOPHAGEAL INTUBATION RESULTING IN HYPOXIC EVENT AND DEATH

A 75 year-old female, with history significant for coronary artery disease, myocardial infarction one year prior to this, mitral valve prolapse, congestive heart failure and hypertension, presented for a planned coronary artery bypass surgery. **Pre-op anesthesia assessment by the anesthesiologist noted airway "within defined limits."**

After intubation, central lines were inserted. A few minutes into the surgery, **arterial blood gas (ABG) results reflected primary respiratory acidosis. The critical ABG result was placed on the table by the perfusionist, but the results were not verbally reported to the anesthesiologist.** Seven minutes later, the patient was in **cardiac arrest and resuscitation measures began.** The anesthesiologist documented emergent removal and placement of a new endotracheal tube and **noted that the patient's abdomen was distended. A chest x-ray showed a large gastric dilatation with the radiologist's note that "esophageal intubation cannot be excluded".** The patient was transferred to the ICU for further care, however she had suffered a hypoxic ischemic event and died two days later.

The **anesthesiologist acknowledged that the perfusionist told her that the ABG results were "on the table"** but didn't verbally report the critical values. **No one responded to respiratory acidosis for 12 minutes,** until time of cardiac arrest. An expert **radiology reviewer noted retrospectively that the patient had a large submandibular tumor which shifted the trachea and esophagus to the right, which probably led to esophageal intubation.**

The anesthesiologist didn't chart anything on the anesthesia record until about two hours after induction due to the cardiac arrest and resulting code. Her documented event timing in the chart was different from timed photos taken of monitors, and the code sheet was missing from the record. **The hospital changed protocol after this incident; the person receiving lab values must read report to physician or hand lab results to physician.**

Risk Mitigation Strategies

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- **Ongoing evaluation of procedural skills and competency with equipment is critically important.**
- **Conduct a thorough assessment of the patient pre-operatively.**
 - Ensure that all testing and specialty evaluations are available for review prior to induction; in an ambulatory setting, these details might not always be as readily available as in the inpatient setting.
 - Maintain a consistent post-procedure assessment process.
- **Communicate with each other.**
 - Actively collaborate with other members of the patient's surgical care team – including all operating and recovery room staff. Coordinate the steps of the patient's care, including post-operatively.
 - Talk also to the patient/family, elicit a comprehensive patient history and conduct a thorough informed anesthesia consent with the patient – separate from the surgical consent
- **Document.**
 - The anesthesia record is critically important for detailing the pre-operative patient assessment, intra-operative steps, and post-operative sequence of events. Discrepancies or gaps in the details/timing make it much more difficult to build a supportive framework for defense against potential malpractice cases.
- **Know (and adhere to) your supervision responsibility for advanced practice providers.**
- **Follow patient safety precautions before, during and after each procedure, including surgical time-outs and the provision of post-anesthesia specialty coverage.**

MedPro Group & MLMIC Data

MedPro and MLMIC are partnered with Candello, a national medical malpractice data collaborative and division of CRICO, the medical malpractice insurer for the Harvard-affiliated medical institutions.

Derived from the essence of the word candela, a unit of luminous intensity that emits a clear direction, Candello's best-in-class taxonomy, data, and tools provide unique insights into the clinical and financial risks that lead to harm and loss.

Using Candello's sophisticated coding taxonomy to code claims data, MedPro and MLMIC are better able to highlight the critical intersection between quality and patient safety and provide insights into minimizing losses and improving outcomes.

Leveraging our extensive claims data, we help our insureds stay aware of risk trends by specialty and across a variety of practice settings. Data analyses examine allegations and contributing factors, including human factors and healthcare system flaws that result in patient harm. Insight gained from claims data analyses also allows us to develop targeted programs and tools to help our insureds minimize risk.



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